

ABSTRACT

A porous honeycomb structure includes: a plurality of partition walls containing cordierite as a main component and constituted of a porous ceramic having a porosity of 55 to 75% and an average pore diameter of 15 to 35 μm , wherein the partition walls have a pore distribution represented by the following condition formula (1):

$$L_r > 0.3 \times P / 100 + 0.91 \dots (1),$$

"in the above condition formula (1), L_r means an average developed length ratio, and P means a porosity obtained from a total pore volume measured by a mercury press-in type porosimeter, assuming that a true specific gravity of cordierite is 2.52 g/cc."

The porous honeycomb structure is capable of effectively achieving raising of a trapping efficiency of soot or the like, lowering of a pressure loss, improving a purifying performance by effective use of a catalyst, and lengthening a trapping time, and is additionally capable of improving a dissolved loss limit at the time of filter regeneration, and an isostatic strength.